
APPENDIX

Other Materials on Quality of Data

Nonresponse on children ever born.--In the 1950 Census, 9.0 percent of the women had no report on children ever born; this figure refers to women ever married 15 to 59 years old enumerated on the last sample line of the 30-line population schedule. In the 1940 Census, the corresponding figure was 12.6 percent. In an effort to reduce bias from this source, the numbers of children were estimated for these women by a process that usually took into account the number of children present in the household and also allowed for some women's having deceased children or children otherwise absent from home. On the basis of data from a special national sample of about 60,000 women in the 1950 Census, special tables were prepared for use in this editing procedure which made it possible to vary the estimate in each case in accordance with the color, farm residence, age, and marital status of the women.

This sample showed, for instance, that among reporting non-farm white women married once, husband present, about 96 percent of the women 15 to 19 years old had all their children in the household; for women of this description who had no report on number of children ever born, 96 percent were assigned the same number of children ever born as the number of children in the household, and 4 percent were assigned a larger number. For similar women at age 35 to 39 years the percentage was still large, 84 percent; thereafter it dropped rapidly, to 65 percent at 40 to 44 years, and was not useful at age 45 years and over because too many children had left home. For women 45 to 49 years old in 1950, a somewhat arbitrary editing process was set up on the basis of distributions of women by number of children ever born from the 1940 Census reports modified on the assumption that women not reporting in 1950 were about 80 percent as fertile as women reporting in 1940.¹ Women for whom the number of children ever born was estimated were identified separately on the punch card, however. Table A-1 presents data on women by number of children ever born classified by source of information, that is, as an original report or an estimate of children ever born. Note that at ages under 45 years the women with estimates of children ever born are estimated to have fewer children than the women with children originally reported. This difference reflects the fact that the women with estimates had fewer children in the household, on the average, than did women with reports.

Own children under 5 years old in relation to reporting status of children ever born.--In the 1940 Census, tabulations were made which showed very sharp differences between the number of own children under 5 years old for women with and without a report on children ever born. The results were published in an appendix to the 1940 Census report, Differential Fertility, 1940 and 1910--Women by Number of Children Ever Born. For purposes of comparison, a similar count has been made and the results presented in table A-2. The women with no report on children ever born in 1950 had fewer young children in the household than did women with a report on children ever born. The two groups were more alike in 1950 than in 1940, however, indicating that the non-reports in 1950 were less selective of childless women than in 1940.

Quality of data for women who reported on children ever born.--In the 1950 Census, a special Infant Card was filled for each child born in the first three months of 1950, for purposes

of a birth registration test and a census enumeration test. Among other items, the card contained information on the order of live birth, that is, whether the child was the mother's first child, second, etc. The item on order of live birth is equivalent to children ever born to the mother except when the child is not the last-born of twins, the second or third child among triplets, etc. The cards were matched against transcripts of birth registration records by the National Office of Vital Statistics. The comparison of data on order of live birth for the two independent records that is given in table A-3 is at least suggestive of the quality of reporting on children ever born. It is likely that the quality of reporting was better for women who had a child born in the first three months of 1950, who are shown in table A-3, than for those women who did not have a child born during this period, if only because the women with a young child were more likely to be at home when the enumerator called. The data in both the Infant Cards and the birth records are subject to errors of reporting, and when differences arise it is not always certain which record is correct although the birth record may be more often correct. "Overreporting" arises from the inclusion of an adopted child or a stepchild as a "birth" through a misunderstanding by the respondent on the one hand, or the physician (birth record) or the enumerator (Infant Card), on the other hand, or from the inclusion of a stillbirth in response to a question regarding live births alone. "Underreporting" arises from failure to count a child who died, a child who was released for adoption, a child from a former marriage, etc.

Undercount of young children.--In many censuses the world over, there is a characteristic undercounting of very young children. This situation seems to arise not only from underenumeration or a missing of young children in censuses but also from misstatements of age, such as the reporting of age in terms of an approaching birthday rather than of the last birthday. The bias tends to be compensatory in nature at ages over 1 year, and probably is less serious there, too, because the parents of older children are more settled and more likely to be respondents for their own families. It has been estimated from survivors of births that the 1950 Census count of population under 5 years old was 95.3 percent complete and that of population under 1 year old was 89.0 percent complete. These estimates include both errors of coverage and errors in reporting age. (See tables A-4 and A-5. For further information, see U. S. Bureau of the Census, Current Population Reports, Series P-25, No. 106, "Estimates of the Civilian Population of States, by Broad Age Groups: July 1, 1953," December 6, 1954.) In contrast to this estimated 11.0 percent undercount of population under 1 year old, a special matching of birth registration records and census records for infants born in the first three months of 1950 showed that only 3.6 percent of the infants were not enumerated. (U. S. Bureau of the Census, Infant Enumeration Study: 1950, Washington, D. C., 1953.) Either older infants, born in the last nine months of 1949, were more often missed, or they were more often reported as 1 year old or over.

¹ In 1940 women 40 to 49 years old with no report on children ever born had only about 80 percent as many children under 5 years old in the household as compared with women with a report on children ever born.

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Table A-1.—REPORTING OF CHILDREN EVER BORN—WOMEN 15 TO 59 YEARS OLD EVER MARRIED, BY AGE, FOR THE UNITED STATES: 1950

[Based on Sample C]

Age of woman and reporting status	Total women ever married	Women with specified number of children ever born								Children ever born		
		None	1	2	3	4	5 and 6	7 to 9	10 or more	Number	Per 1,000 women	Per 1,000 mothers
15 TO 44 YEARS												
Total, 15 to 44 years.....	25,703,760	5,855,400	6,848,520	6,345,750	3,206,700	1,562,820	1,197,960	510,000	176,610	47,787,582	1,859	2,408
Children reported.....	23,379,660	5,129,670	6,280,110	5,855,040	2,937,940	1,436,640	1,098,900	467,490	153,870	43,868,094	1,876	2,404
Percent.....	100.0	21.9	26.9	25.0	12.7	6.1	4.7	2.0	0.7	...	...	...
Children estimated.....	2,324,100	725,730	568,410	490,710	248,760	126,180	99,060	42,510	22,740	3,919,488	1,686	2,452
Percent.....	100.0	31.2	24.5	21.1	10.7	5.4	4.3	1.8	1.0	...	...	...
15 to 19 years.....												
Total, 15 to 19 years.....	924,810	487,950	337,050	82,680	13,380	2,700	1,050	...	...	558,600	604	1,279
Children reported.....	802,650	410,400	304,560	72,720	11,760	2,160	1,050	...	...	499,170	622	1,273
Percent.....	100.0	51.1	37.9	9.1	1.5	0.3	0.1	...	...	...	...	...
Children estimated.....	122,160	77,550	32,490	9,960	1,620	540	...	...	...	59,430	486	1,332
Percent.....	100.0	63.5	26.6	8.2	1.3	0.4	...	...	...	...	...	...
20 to 24 years.....												
Total, 20 to 24 years.....	4,059,480	1,352,640	1,530,360	821,580	250,320	72,000	28,290	4,290	...	4,392,150	1,082	1,623
Children reported.....	3,647,760	1,170,270	1,399,500	753,840	228,900	65,520	26,160	3,750	...	4,019,148	1,102	1,622
Percent.....	100.0	32.1	38.4	20.7	6.3	1.8	0.7	0.1	...	...	...	...
Children estimated.....	411,720	182,370	130,860	67,740	21,420	6,480	2,130	720	...	373,002	906	1,626
Percent.....	100.0	44.3	31.8	16.5	5.2	1.6	0.5	0.2	...	...	...	...
25 to 29 years.....												
Total, 25 to 29 years.....	5,496,690	1,160,370	1,666,170	1,503,750	673,380	274,050	170,370	36,150	12,450	9,090,420	1,654	2,096
Children reported.....	5,007,510	1,013,220	1,533,180	1,389,420	622,320	252,420	153,810	33,660	9,480	8,352,367	1,668	2,091
Percent.....	100.0	20.2	30.6	27.7	12.4	5.0	3.1	0.7	0.2	...	...	...
Children estimated.....	489,180	147,150	132,990	114,330	51,060	21,630	16,560	2,490	2,970	738,053	1,509	2,158
Percent.....	100.0	30.1	27.2	23.4	10.4	4.4	3.4	0.5	0.6	...	...	...
30 to 34 years.....												
Total, 30 to 34 years.....	5,354,700	925,710	1,253,430	1,529,220	828,720	397,860	288,360	107,400	24,000	11,027,358	2,059	2,490
Children reported.....	4,900,500	819,960	1,149,450	1,414,260	766,320	366,000	265,530	99,540	19,440	10,143,736	2,070	2,486
Percent.....	100.0	16.7	23.5	28.9	15.6	7.5	5.4	2.0	0.4	...	...	...
Children estimated.....	454,200	105,750	103,980	114,960	62,400	31,860	22,830	7,860	4,560	883,622	1,945	2,536
Percent.....	100.0	23.3	22.9	25.3	13.7	7.0	5.0	1.7	1.0	...	...	...
35 to 39 years.....												
Total, 35 to 39 years.....	5,201,190	993,360	1,085,220	1,322,640	786,300	425,520	363,120	170,160	54,870	11,686,902	2,247	2,777
Children reported.....	4,761,810	884,880	997,020	1,224,270	730,020	391,410	330,720	155,520	47,970	10,729,305	2,253	2,767
Percent.....	100.0	18.6	20.9	25.7	15.3	8.2	6.9	3.3	1.0	...	...	...
Children estimated.....	439,380	108,480	88,200	98,370	56,280	34,110	32,400	14,640	6,900	957,597	2,179	2,894
Percent.....	100.0	24.7	20.1	22.4	12.8	7.8	7.4	3.3	1.6	...	...	...
40 to 44 years.....												
Total, 40 to 44 years.....	4,666,890	935,370	976,290	1,085,880	654,600	390,690	346,770	192,000	85,290	11,032,152	2,364	2,956
Children reported.....	4,259,430	830,940	896,400	1,000,530	598,620	359,130	321,630	175,200	76,980	10,124,368	2,377	2,953
Percent.....	100.0	19.5	21.0	23.5	14.1	8.4	7.6	4.1	1.8	...	...	...
Children estimated.....	407,460	104,430	79,890	85,350	55,980	31,560	25,140	16,800	8,310	907,784	2,228	2,996
Percent.....	100.0	25.6	19.6	20.9	13.7	7.7	6.2	4.1	2.0	...	...	...
45 TO 59 YEARS												
45 to 49 years.....												
Total, 45 to 49 years.....	4,120,140	841,680	817,740	893,100	567,630	356,550	345,060	206,940	91,440	10,267,590	2,492	3,132
Children reported.....	3,761,340	769,830	751,680	815,280	518,040	321,870	315,930	185,370	83,340	9,339,378	2,483	3,122
Percent.....	100.0	20.5	20.0	21.7	13.8	8.6	8.4	4.9	2.2	...	...	...
Children estimated.....	358,800	71,850	66,060	77,820	49,590	34,680	29,130	21,570	8,100	928,212	2,587	3,235
Percent.....	100.0	20.0	18.4	21.7	13.8	9.7	8.1	6.0	2.3	...	...	...
50 to 54 years.....												
Total, 50 to 54 years.....	3,763,080	699,960	689,040	780,030	540,450	358,710	378,330	217,290	99,270	10,181,558	2,706	3,324
Children reported.....	3,422,760	637,680	626,460	706,770	490,020	326,220	341,850	201,930	91,830	9,288,997	2,714	3,335
Percent.....	100.0	18.6	18.3	20.6	14.3	9.5	10.0	5.9	2.7	...	...	...
Children estimated.....	340,320	62,280	62,580	73,260	50,430	32,490	36,480	15,360	7,440	892,561	2,623	3,210
Percent.....	100.0	18.3	18.4	21.5	14.8	9.5	10.7	4.5	2.2	...	...	...
55 to 59 years.....												
Total, 55 to 59 years.....	3,293,130	574,770	543,900	649,890	473,130	340,410	361,860	236,670	112,500	9,729,340	2,954	3,579
Children reported.....	2,987,910	520,650	490,230	583,770	428,370	309,810	333,750	217,770	103,560	8,883,719	2,973	3,601
Percent.....	100.0	17.4	15.4	19.5	14.2	10.4	11.2	7.3	3.5	...	...	...
Children estimated.....	305,220	54,120	53,670	66,120	44,760	30,600	28,110	18,900	8,940	845,621	2,771	3,368
Percent.....	100.0	17.7	17.6	21.7	14.7	10.0	9.2	6.2	2.9

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Table A-2.—REPORTING OF CHILDREN EVER BORN, BY NUMBER OF OWN CHILDREN UNDER 5 YEARS OLD IN HOUSEHOLD—WOMEN 15 TO 49 YEARS OLD EVER MARRIED, BY AGE OF WOMAN, FOR THE UNITED STATES: 1950

[Based on Sample 0]

Reporting of children ever born and number of own children under 5 years old in household	Total, 15 to 49 years	Age of woman (years)						
		15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49
WOMEN EVER MARRIED WITH CHILDREN EVER BORN REPORTED								
Total women.....	27,141,000	802,650	3,647,760	5,007,510	4,900,500	4,761,810	4,259,430	3,761,340
No children under 5.....	16,747,500	435,150	1,373,490	1,869,360	2,517,420	3,287,910	3,635,640	3,628,530
1 child under 5.....	7,091,940	295,680	1,435,110	1,962,150	1,672,290	1,113,090	499,530	114,090
2 children under 5.....	2,700,600	63,930	682,170	949,770	588,390	298,110	103,380	14,850
3 children or more.....	600,960	7,890	156,990	226,230	122,400	62,700	20,880	3,870
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No children under 5.....	61.7	54.2	37.7	37.3	51.4	69.0	85.4	96.5
1 child under 5.....	26.1	36.8	39.3	39.2	34.1	23.4	11.7	3.0
2 children under 5.....	10.0	8.0	18.7	19.0	12.0	6.3	2.4	0.4
3 children or more.....	2.2	1.0	4.3	4.5	2.5	1.3	0.5	0.1
Own Children Under 5 Years Old								
Number.....	14,375,430	447,810	3,289,590	4,570,170	3,230,880	1,907,460	772,800	156,720
Per 1,000 women (line a).....	530	558	902	913	659	402	181	42
WOMEN EVER MARRIED WITH CHILDREN EVER BORN NOT REPORTED								
Total women.....	2,682,900	122,160	411,720	489,180	454,200	439,380	407,460	358,800
No children under 5.....	1,779,300	83,820	204,600	225,630	258,210	309,420	349,860	347,760
1 child under 5.....	620,580	30,000	134,160	169,590	136,260	97,350	44,310	8,910
2 children under 5.....	229,320	7,410	58,260	75,630	48,870	26,580	10,740	1,830
3 children or more.....	53,700	930	14,700	18,330	10,860	6,030	2,520	300
Percent.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No children under 5.....	66.3	68.6	49.7	46.1	56.8	70.4	85.9	96.9
1 child under 5.....	23.1	24.6	32.6	34.7	30.0	22.2	10.9	2.5
2 children under 5.....	8.5	6.1	14.2	15.5	10.8	6.0	2.6	0.5
3 children or more.....	2.0	0.8	3.6	3.7	2.4	1.4	0.6	0.1
Own Children Under 5 Years Old								
Number.....	1,247,310	47,670	296,550	378,270	267,870	169,530	73,860	13,560
Per 1,000 women (line b).....	465	390	720	773	590	386	181	38
FERTILITY INDEX								
1950 (line b+line a).....	0.877	0.699	0.798	0.847	0.895	0.963	1.000	0.905
1940 ¹	(²)	0.509	0.656	0.735	0.812	0.810	0.844	(²)

¹ Data for native white and Negro women. Indices derived from U. S. Bureau of the Census, special report of Sixteenth Census, *Differential Fertility, 1940 and 1910—Women by Number of Children Ever Born*, p. 409.

² Data for women 45 to 49 years old not available.

Table A-3.—COMPARISON OF ENTRIES ON CENSUS INFANT CARD AND ON NATIONAL OFFICE OF VITAL STATISTICS BIRTH RECORD AS TO ORDER OF LIVE BIRTH, FOR CHILDREN BORN IN THE FIRST 3 MONTHS OF 1950, BY COLOR, FOR THE UNITED STATES, URBAN AND RURAL: 1950

[Data exclude illegitimate births; births with order of live birth not reported on one or both records; births of twins, triplets, or quadruplets; and births with insufficient detail on record to establish a match, or which have only one record. Urban-rural residence according to old definition]

Area and color of woman	Total records compared	Census records lower than NOV5 records					Records identical		Census records higher than NOV5 records					Net percentage census records lower than NOV5 records (a) - (b)
		Total		3 or more children lower	2 children lower	1 child lower	Number	Percent of total records	Total		1 child higher	2 children higher	3 or more children higher	
		Number	Percent of total records (a)						Number	Percent of total records (b)				
UNITED STATES														
Total.....	665,758	33,832	5.1	2,845	4,814	26,173	613,562	92.2	18,364	2.8	13,700	2,667	1,997	2.3
White.....	591,289	22,944	3.9	1,667	3,005	18,272	555,224	93.9	13,121	2.2	10,169	1,765	1,187	1.7
Nonwhite.....	74,469	10,888	14.6	1,178	1,809	7,901	58,338	78.3	5,243	7.0	3,531	902	810	7.6
URBAN														
Total.....	376,321	14,725	3.9	1,023	1,962	11,740	353,002	93.8	8,594	2.3	6,667	1,208	719	1.6
White.....	334,931	10,600	3.2	663	1,288	8,649	318,117	95.0	6,214	1.9	4,990	819	405	1.3
Nonwhite.....	41,390	4,125	10.0	360	674	3,091	34,885	84.3	2,380	5.8	1,677	389	314	4.2
RURAL NONFARM														
Total.....	177,162	9,157	5.2	810	1,269	7,078	162,959	92.0	5,046	2.8	3,781	732	533	2.4
White.....	163,051	6,823	4.2	540	883	5,402	152,246	93.4	3,980	2.4	3,050	554	376	1.8
Nonwhite.....	14,111	2,332	16.5	270	386	1,676	10,713	75.9	1,066	7.6	731	178	157	8.9
RURAL FARM														
Total.....	112,275	9,950	8.9	1,012	1,583	7,355	97,601	86.9	4,724	4.2	3,252	727	745	4.7
White.....	93,307	5,519	5.9	464	834	4,221	84,861	90.9	2,927	3.1	2,129	392	406	2.8
Nonwhite.....	18,968	4,431	23.4	548	749	3,134	12,740	67.2	1,797	9.5	1,123	335	339	13.9

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Table A-4.—ENUMERATED POPULATION AS PERCENT OF EXPECTED POPULATION UNDER 5 YEARS OLD, BY AGE, COLOR, AND SEX, FOR THE UNITED STATES: 1950

[Estimates based on comparison of enumerated population with the number expected from statistics of births, deaths, and net migration, with allowance for underregistration of vital statistics]

Age	Total			White			Nonwhite		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Total, under 5 years.....	95.3	95.0	95.6	96.0	95.7	96.3	90.3	90.0	90.7
Under 1 year.....	89.0	88.6	89.4	89.9	89.6	90.2	83.2	82.4	84.1
1 year.....	92.9	92.9	92.9	94.1	94.0	94.2	85.4	85.9	84.9
2 years.....	97.5	96.9	98.1	97.7	97.2	98.3	95.9	95.1	96.7
3 years.....	98.9	98.4	99.5	99.4	98.9	100.0	95.1	94.1	96.1
4 years.....	98.7	98.7	98.7	99.4	99.3	99.6	94.0	94.5	93.5

Table A-5.—ENUMERATED POPULATION AS PERCENT OF EXPECTED POPULATION UNDER 5 YEARS OLD, BY COLOR, FOR THE UNITED STATES, BY REGIONS AND STATES: 1950 AND 1940

[Estimates based on comparison of enumerated population with the number expected from statistics of births, deaths, and net migration including state of birth data, with allowance for underregistration of vital statistics. Percent not shown for nonwhite where there are fewer than 10,000 under 5 years old]

Area	1950			1940		Area	1950			1940	
	Total	White	Non-white	White	Non-white		Total	White	Non-white	White	Non-white
United States.....	95.3	96.0	90.3	93.6	84.8	STATES—Con.					
REGIONS						Michigan.....	96.2	96.4	93.9	94.7	90.7
Northeast.....	96.2	96.4	92.4	93.1	85.6	Minnesota.....	97.9	97.8	...	97.5	...
North Central.....	96.5	96.7	92.2	95.3	88.6	Mississippi.....	93.7	97.1	90.9	93.8	83.6
South.....	93.5	94.9	89.5	92.3	84.1	Missouri.....	97.2	97.8	91.2	94.6	87.1
West.....	95.9	96.1	92.5	93.5	89.6	Montana.....	96.2	96.3	...	94.5	...
STATES						Nebraska.....	97.3	97.4	...	98.0	...
Alabama.....	92.8	93.8	91.0	91.6	85.5	Nevada.....	99.6	99.3	...	90.6	...
Arizona.....	94.8	95.5	91.1	92.6	...	New Hampshire.....	98.0	97.9	...	95.3	...
Arkansas.....	91.2	93.8	84.4	93.8	80.4	New Jersey.....	94.0	94.5	88.7	91.2	85.6
California.....	95.2	95.4	92.7	92.3	85.0	New Mexico.....	91.7	92.8	...	87.9	...
Colorado.....	95.4	95.4	...	94.8	...	New York.....	96.0	96.4	91.5	93.2	86.1
Connecticut.....	95.2	95.0	...	94.0	...	North Carolina.....	94.5	96.0	91.2	90.9	82.3
Delaware.....	97.9	97.5	...	93.9	87.0	North Dakota.....	100.0	100.0	...	96.9	...
District of Columbia.....	94.2	97.4	90.1	95.3	85.2	Ohio.....	96.3	96.5	93.4	94.2	88.6
Florida.....	96.0	98.2	89.8	90.3	86.6	Oklahoma.....	94.2	95.9	81.9	96.8	89.6
Georgia.....	91.6	94.0	87.5	91.5	80.0	Oregon.....	98.1	97.9	...	96.1	...
Idaho.....	95.4	95.4	...	95.7	...	Pennsylvania.....	96.3	96.5	94.3	92.6	83.7
Illinois.....	94.7	95.4	87.6	93.7	84.6	Rhode Island.....	97.6	97.8	...	93.7	...
Indiana.....	95.8	96.0	91.6	95.0	92.1	South Carolina.....	91.1	93.7	88.1	93.2	79.9
Iowa.....	99.2	99.2	...	97.6	...	South Dakota.....	97.6	97.8	...	98.0	...
Kansas.....	95.4	95.2	...	96.8	...	Tennessee.....	94.4	95.5	89.4	92.8	89.5
Kentucky.....	93.5	93.2	99.2	93.3	89.5	Texas.....	92.0	92.6	88.6	92.1	88.1
Louisiana.....	92.8	94.6	90.0	94.6	86.9	Utah.....	99.2	98.9	...	97.4	...
Maine.....	96.7	96.4	...	95.1	...	Vermont.....	95.1	95.0	...	97.7	...
Maryland.....	96.3	97.7	90.2	91.7	82.0	Virginia.....	95.9	97.7	90.5	91.7	85.5
Massachusetts.....	98.7	98.8	...	94.6	...	Washington.....	98.5	98.6	...	95.8	...
						West Virginia.....	94.6	94.6	94.8	87.2	81.0
						Wisconsin.....	97.4	97.3	...	95.7	...
						Wyoming.....	94.9	95.1	...	92.8	...